CAUCASIANA
Journal on the biodiversity of the Caucasus and the adjacent regions

Caucasiana 4: 59–64 (2025)
DOI: 10.3897/caucasiana.4.e158970

Short Communication

First records of two genera *Phragmacossia* Schawerda, 1924 and *Stygia* Latreille, [1802] in the South Caucasus (Lepidoptera, Cossidae)

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Abstract

The study provides an update on the Lepidoptera diversity of Armenia, with the first record of two genera *Phragmacossia* Schawerda, 1924 and *Stygia* Latreille, [1802] based on 10 male specimens of *Phragmacossia territa* (Staudinger, 1879) and a single female specimen of *Stygia mosulensis* Daniel, 1965 collected in Alvank, Syuik Province, Armenia. These are also the first record of this genera in the South Caucasus.

Key words: Armenia, Cossoidea, Heterocera, Heteroneura, new records

OPEN ACCESS

Academic editor: Levan Mumladze
Received: 3 March 2025
Accepted: 28 April 2025
Published: 17June 2025

ZooBank: https://zoobank.org/7D33A3EE-3935-418E-BD46-D2DCA004C261

Citation: Japaridze L–G, Haverinen R, Junnilainen J, Kalashian M, Pototskin A (2025) First records of two genera *Phragmacossia* Schawerda, 1924 and *Stygia* Latreille, [1802] in the South Caucasus (Lepidoptera, Cossidae). Caucasiana 4: 59–64. https://doi.org/10.3897/caucasiana.4.e158970

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Introduction

Recent research and collecting activities in the South Caucasus and adjacent regions have led to the description of several new species of Cossidae, including: *Holcocerus didmanidzae* Yakovlev 2006 (Georgia), *Stygiodies nupponenorum* Yakovlev and Saldaitis 2011 (Türkiye), *Isoceras shevnini* Yakovlev 2015 (Armenia), *Phragmataecia effendii* Yakovlev and Snegovaya 2020 (Azerbaijan), *Dieida versicolor* Japaridze and Hulsbosch 2023 (Türkiye), and *Dyspessa gayane* Yakovlev, Dûda, Kalashian, Prozorov, Japaridze, Hulsbosch, Müller, Saldaitis 2025 (Armenia). As some of these species are known only from type specimens, and others have been described from a single sex, further investigation into their biology and life cycles would be highly valuable.

Despite these recent advancements, the Cossidae fauna of the South Caucasus remain poorly studied (Yakovlev et al. 2025). To date, only general overviews have been published for Georgia (Didmanidze and Yakovlev 2007) and Azerbaijan (Snegovaya and Yakovlev 2017). However, recent collecting efforts

have led to the discovery of new genera for Georgia (Japaridze 2024) and the description of new species from both Azerbaijan (Yakovlev and Snegovaya 2020) and Armenia (Yakovlev 2015; Yakovlev et al. 2024). Here, we present the first records of *Phragmacossia territa* (Staudinger, 1879) and *Stygia mosulensis* Daniel, 1965 from the South Caucasus.

The specimens were collected using a light trap. The altitude and geographical coordinates (given in WGS84) were determined using a Garmin GPS MAP 64s. The examined material is distributed between the personal collections of Jari Junnilainen (hereafter as JJHF) and Lasha–Giorgi Japaridze (hereafter as and JLGT). Specimens were examined on the basis of both external and internal morphological characters. The genital dissection was performed with the technique published by Robinson (1976), with modifications suggested by Fibiger and Goater 1997. Potassium hydroxide (15% KOH solution) was used to macerate the full abdomen. The photographs of *S. mosulensis* were taken with Olympus OM-D E-M1 Mark II camera with 60 mm macro-objective and later stacked with Helicon Focus 8.3. The photographs of *P. territa* were taken with a Canon EOS 90D camera equipped with a Canon EF 60 mm f/2.8 Macro USM lens. Digital images were then prepared using Zerene Stacker image stacking software and Adobe Photoshop CS6 (version 13.0).

Results

Family Cossidae Leach, 1815

Genus *Phragmacossia* Schawerda, 1924

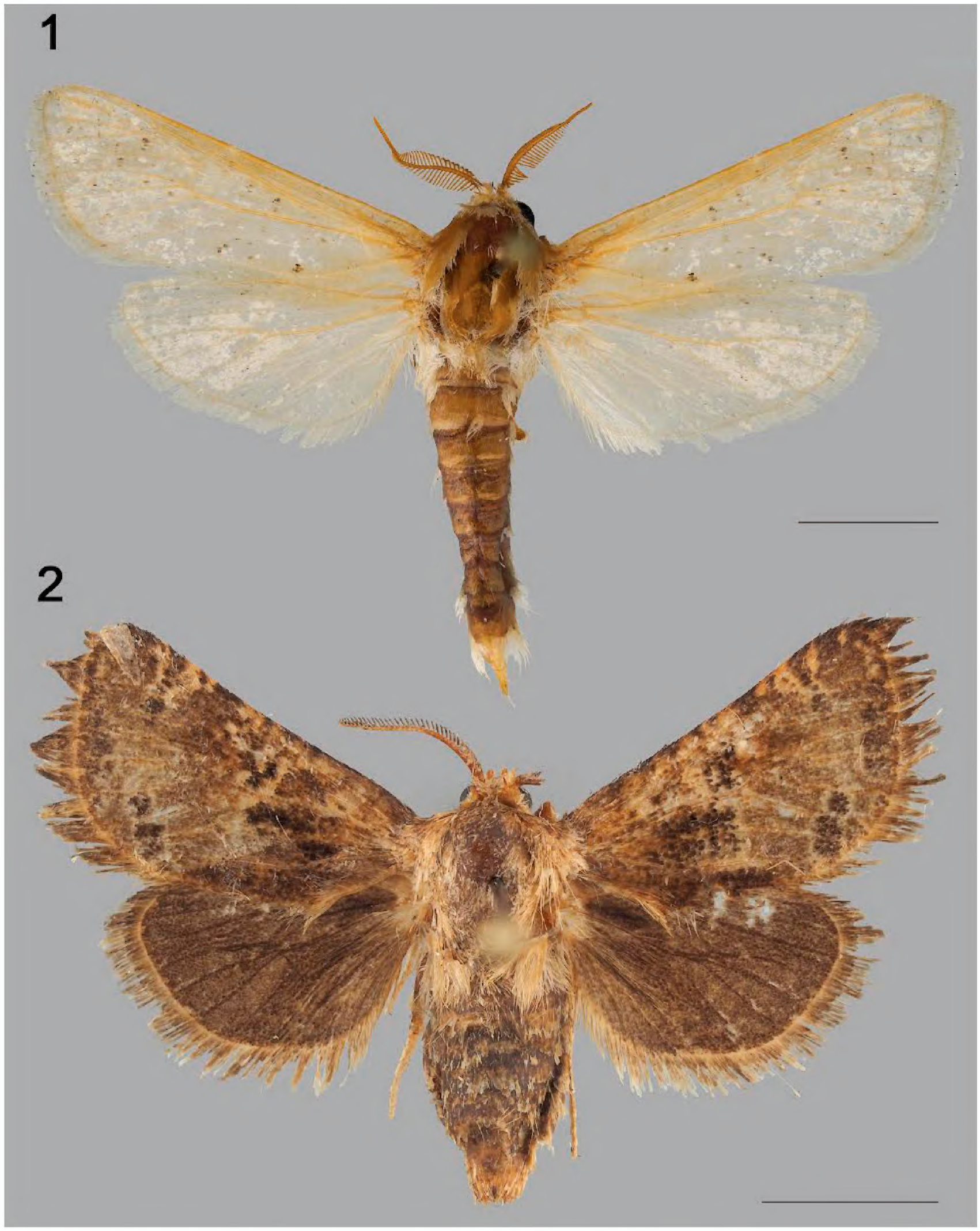
Comments. The genus *Phragmacossia* Schawerda, 1924 consists of sixteen known nocturnal species with a mainly Palaearctic distribution (Yakovlev 2011b, 2014; Saldaitis et al. 2023). Hitherto, neither of the species reported here had been recorded from the South Caucasus but *P. territa* (Staudinger 1879) has been reported from adjacent areas in Türkiye and Iran (Kemal and Koçak 2017; Alipanah et al. 2021).

***Phragmacossia territa* (Staudinger, 1879)**
Fig. 1

Phragmacossia territa: Yakovlev et al. 2015: 63, fig. 60 (♂)
Phragmacossia territa: Kemal and Koçak 2017: 39, fig. 49 (♂)
Phragmacossia territa: Alipanah et al. 2021: 75, fig. 21B (♂)
Phragmacossia territa: Saldaitis et al. 2023: 221, figs 8-10 (♂); 223, fig. 22 (♂)

Material examined. ARMENIA • 7♂♂; Alvank, Syunik Province; 38.918750°N, 46.339806°E; 484 m a.s.l.; leg: Risto Haverinen; 16 July 2022; JLGT • 3♂♂; Alvank, Syunik Province; 38.918750°N, 46.339806°E; 484 m a.s.l.; leg: Risto Haverinen; 16 July 2022; JJHF.

Remarks. The species is known to occur in Middle East and North Africa, Central and Southwest Asia (Saldaitis et al. 2023).



Figures 1–2. General habitus of *Phragmacossia territa* male, dorsal view (1). *Stygia mosulensis* female, dorsal *view (2). Scale bars: 5 mm*.

Genus *Stygia* Latreille, [1802]

Comments. The genus *Stygia* Latreille, [1802] consists of only four known diurnal species, distributed in Southern Europe, Canary Islands, Morocco, Iran, Türkiye, and Iraq (Yakovlev and Ströhle 2016; Alipanah et al. 2021). Hitherto neither of the species reported here had been recorded from the South Caucasus, although *S. mosulensis* was previously recorded in adjacent Türkiye and Iran (Kemal and Koçak 2016; Alipanah et al. 2021).

***Stygia mosulensis* Daniel, 1965**
Fig. 2

Stygia mosulensis: Yakovlev and Ströhle 2016: 11, fig. 1 (♂)
Stygia mosulensis: Kemal and Koçak 2016: 2, fig. 1 (♀)
Stygia mosulensis: Alipanah et al. 2021: 11, fig. 2C (♂)

Material examined. ARMENIA • 1♀; Alvank, Syunik Province; 38.918750°N, 46.339806°E; 484 m a.s.l.; leg: Risto Haverinen; 16 July 2022; JJHF.

Remarks. The species is known to occur in Iraq, Iran, Greece, Southern Bulgaria, Southern Türkiye, probably Morocco (Witt 1983; de Freina and Witt 1990; de Freina 1996; Yakovlev and Ströhle 2016; Kermal and Kocak 2016; Alipanah et al. 2021). It is the first record of *Stygia* in the South Caucasus. Host plant and immature stages are unknown. Yakovlev (2011a) reported that members of the subfamily Stygiinae Rafinesque, 1815 are diurnal. Schoorl (1990), citing Daniel (1955), also described *Stygia australis* Latreille, [1803] and *Stygia hades* Le Cerf, 1924 as diurnal species but notes that *S. mosulensis* was collected at night. Since our specimen was also collected at night, it is possible that *S. mosulensis* may be a nocturnal or crepuscular species; this hypothesis requires further investigation into the species' biology. Given the limited study of the Cossidae in the South Caucasus, it is likely that additional representatives of the genus *Stygia* may still await discovery in remote regions of Georgia and Azerbaijan.

Acknowledgements

Our gratitude to Leo Vahatalo (Helsinki, Finland) for photographing the *S. mosulensis* preserved specimen. Thanks to Armen Seropian (Tbilisi, Georgia) who kindly agreed to photographing of *P. territa* preserved specimen and provided valuable suggestions to the manuscript. Special thanks to the Ministry of Environment of the Republic of Armenia for the collection and export permits, permit number: 0001–23. Thanks to an anonymous reviewer for their critical comments and suggestions.

Additional information

Conflict of interest

The authors have declared that no competing interests exist.

Ethical statement

No ethical statement was reported.

Funding

No funding was reported.

Author contributions

Conceptualization: L–GJ, JJ, RH. Fieldwork: RH, AP, L–GJ. Material examination: L–GJ, JJ. Writing original draft: L–GJ. Review of final manuscript: LGJ, JJ, RH, MK, AP.

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Data availability

All of the data that support the findings of this study are available in the main text or Supplementary Information.

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